

## Clean Air Standards

The Clean Air Act established two types of national air quality standards. Primary standards were established to protect public health, including the health of “sensitive” populations such as children, elderly and those with respiratory illnesses. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation and buildings.

### NEW STANDARDS

In 1997, the EPA established new health-based standards for ground-level ozone and particulate matter. The standards were established after extensive scientific reviews showed that the changes were necessary to protect public health and the environment. However, the new ozone standards were challenged in court. In May 1999, the U.S. Court of Appeals for the District of Columbia Circuit declared that the new ozone standards were not enforceable.

### FINE PARTICULATE MATTER

In revising the air quality standards, the EPA created new standards for PM<sub>2.5</sub> (fine particulate matter less than

2.5 microns in diameter). The EPA’s scientific review concluded that fine particles, which penetrate deeply into the lungs, are more damaging to human health than the coarse particles known as PM<sub>10</sub>. The EPA also modified the 24-hour PM<sub>10</sub> (fine particulate matter less than 10 microns in diameter) standard to be based on a three-year average of the 99th percentile of data. These standards are listed in the table on page 11.

### AIR QUALITY MONITORS IN MISSOURI

In 1999, the Missouri Air Pollution Monitoring Network included 111 monitors of three types: national monitors, state and local agency monitors and special-purpose monitors. National monitors provide data on national trends. State and local agencies operate other permanent monitors. Special-purpose monitors are placed for a limited time to study small areas or special sites. The monitors are placed to gather representative data as well as worst-case occurrences. There are also 44 meteorological monitors in operation throughout the state. The data collected at these monitors are used for analysis and modeling purposes.



# National Ambient Air Quality Standards

<b>Criteria Air Pollutant</b>	<b>Averaging Time</b>	<b>Primary Standard</b>	<b>Secondary Standard</b>
Carbon Monoxide	Eight-hour maximum <sup>a</sup>	9 ppm <sup>d</sup> (10 mg/m <sup>3</sup> ) <sup>c</sup>	None
	One-hour maximum <sup>b</sup>	35 ppm <sup>d</sup> (40 mg/m <sup>3</sup> ) <sup>c</sup>	None
Lead	Maximum Quarterly Arithmetic Mean	1.5 mg/m <sup>3</sup> <sup>c</sup>	Same As Primary Standard
Nitrogen Dioxide	Annual Arithmetic Mean	0.05 ppm <sup>d</sup> (100 mg/m <sup>3</sup> ) <sup>c</sup>	Same As Primary Standard
Ozone	One-hour average <sup>b</sup>	0.12 ppm <sup>d</sup> (235 mg/m <sup>3</sup> ) <sup>c</sup>	Same As Primary Standard
Particulate Matter (PM <sub>10</sub> )	Annual Arithmetic Mean	50 mg/m <sup>3</sup> <sup>c</sup>	Same As Primary Standard
	24-hour average <sup>f</sup>	150 mg/m <sup>3</sup> <sup>c</sup>	
Particulate Matter (PM <sub>2.5</sub> )	Annual Arithmetic Mean <sup>g</sup>	15 mg/m <sup>3</sup> <sup>c</sup>	Same As Primary Standard
	24-hour average <sup>h</sup>	65 mg/m <sup>3</sup> <sup>c</sup>	
Sulfur Dioxide	Annual Arithmetic Mean	0.03 ppm <sup>d</sup> (80 mg/m <sup>3</sup> ) <sup>c</sup>	0.5 ppm <sup>d</sup> (1300 mg/m <sup>3</sup> ) <sup>c</sup>
	24-hour maximum <sup>a</sup>	0.14 ppm <sup>d</sup> (365 mg/m <sup>3</sup> ) <sup>c</sup>	
	Three-hour maximum <sup>b</sup>		

<sup>a</sup> Not to be exceeded more than once a year for primary and secondary standards.

<sup>b</sup> Not to be exceeded more than once a year for primary and secondary standards.

<sup>c</sup> mg/m<sup>3</sup> = milligrams per cubic meter.

<sup>d</sup> ppm = part per million.

<sup>e</sup> g/m<sup>3</sup> = micrograms per cubic meter.

<sup>f</sup> Established for a three-year average of the 99th percentile of data.

<sup>g</sup> Established for a three-year average.

<sup>h</sup> Established for a three-year average of the 98th percentile of data.